

Appl. No. 09/914,657

Amendments to the claims:

Cancel claims 18 and 20, without prejudice.

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. to 13. (previously canceled)

14. (currently amended) A method for controlling a drying effect of an equipment layout used in making a coated web of paper or board, the equipment layout comprising at least one coater unit and a plurality of drying units, the method comprising:

applying a liquid-containing coating to a surface of a web in the at least one coater unit;

drying the web coated with the coating in the plurality of drying units by evaporating the liquid from the coated web until a moisture content of the web reaches a desired final moisture value;

compiling, for each drying unit wherein moisture is evaporated from the web, an evaporation rate submodel suited for computing an amount of liquid removed by the respective drying unit, wherein at least one specific evaporation rate submodel is linked into a composite evaporation rate model;

determining a needed overall evaporation effect to be performed by the equipment layout to achieve the desired final moisture value;

determining, by employing the composite evaporation rate model, a needed moisture evaporation effect for each drying unit of the equipment layout having an evaporation rate submodel linked into the composite rate model to achieve the needed overall evaporation effect; and

controlling the moisture evaporation rate for each drying unit of the equipment layout having an evaporation rate submodel linked into the composite rate model, the moisture evaporation rate being controlled in accordance with the determined needed moisture evaporation effect without employing as an input to the composite rate model a measured amount of liquid removed by any individual drying unit of the equipment layout while such drying unit is drying the web.

Appl. No. 09/914,657

15. (currently amended) The method according to claim 14, further comprising:
controlling an evaporation effect of one drying unit of the equipment layout having an evaporation rate submodel linked into the composite rate model with the composite evaporation rate model; and

setting the evaporation effect of every other drying unit of the equipment layout to a fixed value.

16. (currently amended) The method according to claim 14, further comprising:
controlling an evaporation effect of at least two drying units of the equipment layout having an evaporation rate submodel linked into the composite rate model with the composite evaporation rate model.

17. (currently amended) The method according to claim 14, further comprising:
measuring a final moisture content of the web attained after drying the web with the drying units of the equipment layout;
comparing the measured final moisture content with the desired final moisture value; and
controlling the moisture evaporation rate for at least one drying unit of the equipment layout with the composite evaporation rate model based upon the comparison of the measured final moisture content with the desired final moisture value.

18. (currently canceled)

19. (previously presented) The method according to claim 14, further comprising:
measuring an initial moisture content of the web prior to entering a first of the at least one coater unit;
determining the amount of liquid applied to the web in said applying step; and
controlling, using the composite evaporation rate model, the measured initial moisture content and the determined amount of liquid applied to the web, an evaporation rate of at least one controllable drying unit of the equipment layout.

20. (currently canceled)

Appl. No. 09/914,657

21. (currently amended) The method according to claim ~~20~~ 15, wherein a control signal to the controlled drying unit is changed in at least one of a stepwise manner and a superimposition of a pseudo-random binary signal (PRBS) on at least one set value.

22. (previously presented) The method according to claim 14, wherein an output value obtained from the evaporation rate submodel of a drying unit of the equipment layout is used as an input value in the evaporation rate submodel of a next successive drying unit of the equipment layout.

23. (previously presented) The method according to claim 17, wherein any needed change in the overall moisture evaporation effect is allocated among drying units for which the evaporation rate is controlled using the composite evaporation rate model proportionately in ratios determined by predetermined weighting factors.

24. (previously presented) The method according to claim 14, wherein an output value obtained from the evaporation rate submodel of a unit of the equipment layout is used as input value in the evaporation rate submodel of a preceding unit of the equipment layout.

25. (previously presented) The method according to claim 14, wherein the equipment layout comprises a plurality of subsystems, each subsystem comprising at least one coater unit and at least one dryer unit, and wherein an output value obtained from the evaporation rate submodel of a subsystem is used as input value in the evaporation rate submodel of a preceding subsystem.

26. (previously presented) The method according to claim 14, wherein the equipment layout comprises a plurality of subsystems, each subsystem comprising at least one coater unit and at least one dryer unit, and each subsystem having a respective evaporation rate submodel, and wherein the subsystem evaporation rate submodels interact to produce the needed overall moisture effect of the equipment layout.